

## Science and Psychical Research.

IN Dr. Tillyard's rejoinder to my letter on this subject, published in *NATURE* for August 28, he cites Richet as one of the great scientific men who have studied psychical phenomena and have become convinced of their genuineness. He couples Richet with Crookes, Lodge, and others in this respect, but without even suggesting any difference between the individual beliefs of these eminent men. Since I read this my attention has been directed to a statement published by Richet only a little more than two years ago, which appears to me to be of the highest importance.

As we know, Crookes believed that the phenomena which he observed were due to spirits—that is to say, to the discarnate manes of deceased human beings—and Lodge too appears clearly to be of the same opinion. From every human point of view this, of course, is a momentous belief, as indicating the survival after death of human personality. But what does Richet believe?—Richet, who is put by Dr. Tillyard in exactly the same category as Crookes and Lodge.

In the *Proceedings of the Society for Psychical Research* for May 1924, in an article on "The Difficulty of Survival from the Scientific Point of View," Richet, after some evident hesitation, makes the uncompromising statement: "I am forced to regard the spiritistic hypothesis, not only as undemonstrated, but, still more, as being in formal opposition to a great number of facts."

Some may perhaps criticise the word 'spiritistic' which Richet uses. It does not appear to be a dictionary word; but it seems clear from the rest of Richet's article that he uses it as meaning 'pertaining to spirits,' and that what he wishes to convey is that he is quite unconvinced that psychical phenomena are in any way due to spirits, or that such phenomena afford any evidence that spirits exist.

It seems to me, therefore, entirely wrong to class Richet as a spiritualist like Crookes and Lodge, as to do so is most misleading.

A. A. CAMPBELL SWINTON.

Amsterdam,  
September 28.

As Mr. Campbell Swinton has directed attention to the National Laboratory of Psychical Research in his letter published in *NATURE* of September 25, I may perhaps be allowed to modify his observations, which I strongly suspect were intended to be disparaging.

The National Laboratory is no more and no less a "purely private concern" than any other society founded for the purpose of scientific investigation and research. The institution is presided over by Lord Sands, and its vice-presidents and correspondents include Viscountess Grey of Fallodon and many eminent psychists and university professors in all parts of the world. The National Laboratory is governed by a council consisting of well-known London medical men and others whose concern is solely to elucidate the deep mysteries of psychic phenomena and, if possible, to discover the laws governing them. A perusal of our list of members would reveal to Mr. Swinton many names famous in various branches of science.

If we have erred in the naming of our organisation, fellow-sinners to the extent of seven columns in the "Telephone Directory" have committed the same 'crime.' Only lack of intelligence or gross carelessness could possibly account for any confusion between

the name of our institution and that of the National Physical Laboratory. Both organisations are engaged in an endeavour to increase the sum total of the world's knowledge by scientific means, the only difference being that the National Physical Laboratory is supported by the taxpayers and we are not. I admit that the substitution of the word 'International' for 'National' would more properly describe our activities. Mr. Swinton's remark that the name of our laboratory seems to be *suggestio falsi* is as untrue as it is unjust.

It is curious that 'emotional disturbances' have never before been recorded by means of a thermograph; it is still more curious that at séances with eminent mediums the changes in the sitters' thermal conditions should exactly synchronise with the production of phenomena, witnessed under excellent lighting conditions and simultaneously recorded by means of a dictaphone. The fact is, of course, that when no medium is present the graph shows a steadily rising curve with no lowering of the temperature. But if we have proved that 'emotional disturbances' on the part of the sitters three feet away from the thermograph will lower the temperature several degrees, the founding of the National Laboratory of Psychical Research will not have been in vain!

HARRY PRICE.  
(Honorary Director.)

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September 29.

I WOULD not follow Mr. Campbell Swinton further—I have already done so in the correspondence columns of four newspapers—if he did not make a specific attack upon my accuracy. I must vindicate this by explaining the incident mentioned, while admitting that his misreading of it is not unnatural.

I had seen a representative of the *Morning Post* and had suggested that the picture be published. He told me that he feared it would not reproduce. After one interview I thought that I would at least send it up, and I did so, quoting what their representative had said. Therefore I am quite accurate when I say that when I first approached the *Morning Post* I made no suggestion that the photograph would not reproduce. How could I, who profess no knowledge of such matters, instruct a newspaper as to whether they could reproduce or not?

ARTHUR CONAN DOYLE.

Windlesham,  
Crowborough, Sussex,  
September 30.

Distribution of Intensity in the Spectrum of  $\gamma$ -Rays.

NEW information concerning the spectrum of  $\gamma$ -rays may be obtained if we consider the energy of Compton's recoil electrons. As has been shown already (*NATURE*, 116, p. 206, 1925), these electrons can be observed in a Wilson's cloud expansion chamber. In the case of very fast electrons, their velocity is determined from the curvature of the tracks photographed in a homogeneous magnetic field. The energy of recoil  $E$  and the frequency  $\nu$  of the primary rays are connected by the following relation of Debye and Compton:

$$\frac{E}{h\nu} = \frac{2a}{1 + 2a + (1 + a)^2 \epsilon_0^2 \theta^2} \quad (D.-C.)$$

where  $a = h\nu/mc^2$ ,  $m$  is the mass of the electron, and  $\theta$  is